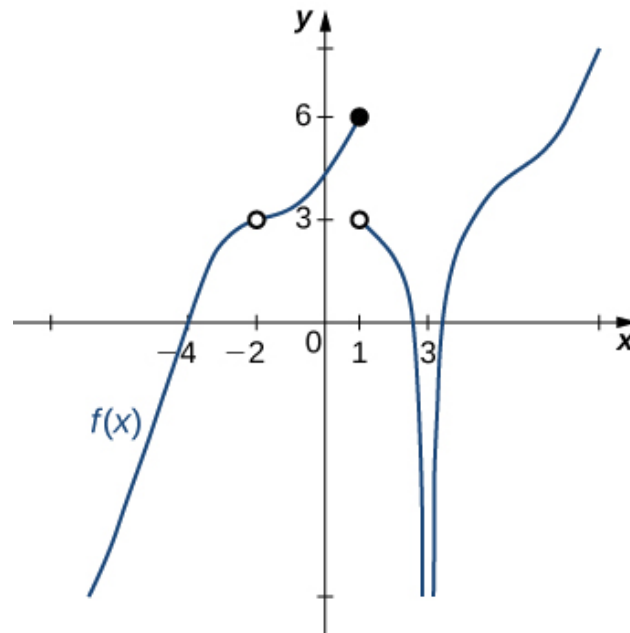


1. For the graph below, find the value(s) a that makes the statement true:
 $\lim_{x \rightarrow a} f(x)$ does not exist.



- A. -2
- B. 1
- C. 3
- D. Multiple a make the statement true.
- E. No a make the statement true.

2. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \rightarrow 7^+} \frac{-5}{(x+7)^4} + 7$$

- A. ∞
- B. $f(7)$
- C. $-\infty$
- D. The limit does not exist
- E. None of the above

3. Evaluate the limit below, if possible.

$$\lim_{x \rightarrow 8} \frac{\sqrt{7x - 7} - 7}{5x - 40}$$

- A. 0.071
 - B. 0.100
 - C. ∞
 - D. 0.014
 - E. None of the above
-

4. Evaluate the limit below, if possible.

$$\lim_{x \rightarrow 5} \frac{\sqrt{8x - 4} - 6}{6x - 30}$$

- A. ∞
 - B. 0.111
 - C. 0.083
 - D. 0.471
 - E. None of the above
-

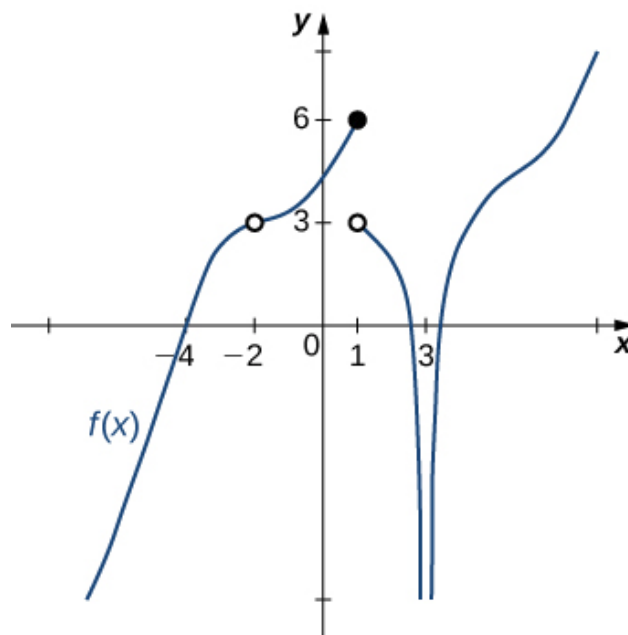
5. Based on the information below, which of the following statements is always true?

$f(x)$ approaches 17.923 as x approaches 7.

- A. $f(17)$ is close to or exactly 7
- B. $f(7) = 17$
- C. $f(7)$ is close to or exactly 17
- D. $f(17) = 7$

E. None of the above are always true.

6. For the graph below, evaluate the limit: $\lim_{x \rightarrow -4} f(x)$.



- A. -6
- B. 0
- C. $-\infty$
- D. The limit does not exist
- E. None of the above

7. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \rightarrow 1^-} \frac{7}{(x+1)^7} + 8$$

- A. $f(1)$
- B. ∞
- C. $-\infty$
- D. The limit does not exist

E. None of the above

-
8. Based on the information below, which of the following statements is always true?

As x approaches ∞ , $f(x)$ approaches 9.495.

- A. $f(x)$ is close to or exactly 9.495 when x is large enough.
- B. $f(x)$ is undefined when x is large enough.
- C. $f(x)$ is close to or exactly ∞ when x is large enough.
- D. x is undefined when $f(x)$ is large enough.
- E. None of the above are always true.

-
9. To estimate the one-sided limit of the function below as x approaches 4 from the left, which of the following sets of numbers should you use?

$$\frac{\frac{4}{x} - 1}{x - 4}$$

- A. $\{4.0000, 3.9000, 3.9900, 3.9990\}$
- B. $\{3.9000, 3.9900, 4.0100, 4.1000\}$
- C. $\{4.0000, 4.1000, 4.0100, 4.0010\}$
- D. $\{3.9000, 3.9900, 3.9990, 3.9999\}$
- E. $\{4.1000, 4.0100, 4.0010, 4.0001\}$

-
10. To estimate the one-sided limit of the function below as x approaches 4 from the right, which of the following sets of numbers should you use?

$$\frac{\frac{4}{x} - 1}{x - 4}$$

- A. $\{4.1000, 4.0100, 4.0010, 4.0001\}$
- B. $\{3.9000, 3.9900, 4.0100, 4.1000\}$

- C. $\{4.0000, 3.9000, 3.9900, 3.9990\}$
 - D. $\{4.0000, 4.1000, 4.0100, 4.0010\}$
 - E. $\{3.9000, 3.9900, 3.9990, 3.9999\}$
-